

HYDROGEN BREATH TESTS

Hydrogen Breath Tests

Hydrogen breath testing (HBT) is used to detect lactose intolerance or small bowel bacterial overgrowth (SBBO). Traditionally HBT are performed in hospital due to the complexity & size of equipment but the development of the Gastro+ Gastrolyzer allows for safe, accurate, portable near-patient HBT.

Indications for HBT

In patients with symptoms such as nausea, wind, bloating, abdominal discomfort and watery diarrhoea which may be due to lactose intolerance (see separate Patient Information sheet) or SBBO.

How it works

Hydrogen is produced when bacteria in the gut act on undigested carbohydrates such as lactose. The hydrogen gas passes across the gut wall into the blood stream and is carried to the lungs where it is expired.

In patients with lactose intolerance there is a rise in the amount of hydrogen detected over baseline which does not occur in normal subjects. In SBBO the HBT records an early peak in hydrogen production due to larger numbers of bacteria colonising the small intestine.

The Gastrolyzer instantly and accurately measures the amount of hydrogen in a single expired breath sample. Disposable mouthpieces provide an anti-bacterial filter in addition to a one-way valve.

How to do a HBT

Patient must not eat or drink (other than small amounts of water) anything on the morning of the test. There are dietary and drug restrictions before the test (see below). The test takes about 3 hours to perform. Before the test begins the patient blows into the Gastrolyzer to obtain baseline hydrogen level. The patient is then asked to drink a sugar solution. Breath samples are taken every 15 minutes for first 30 minutes and then every 30 minutes for next 2 hours for lactose intolerance and every 15 min for 90 minutes for SBBO.

At the end of the HBT a hydrogen profile will be obtained. This will be interpreted by Dr Adam Harris.

Side effects

HBT is harmless and completely safe. Some patients may experience diarrhoea or abdominal cramping during or shortly after the test. This is not harmful and settles within a day or so. Loperamide (Imodium) may be used if needed.

Preparation for HBT

- 1 Avoid beans, peas, pulses, pasta and root vegetables for 48 hours before HBT (all increase amount of hydrogen produced in gut)
- 2 Teeth should be cleaned thoroughly before test. You will be asked to rinse your mouth with an antibacterial mouthwash before starting the HBT (bacterial in the mouth may produce hydrogen). This may be done at home after brushing your teeth; please let us know if you have done this already.
- 3 Do not chew gum before the HBT.
- 4 Cigarette smoking may lead to a false positive result due to carbon monoxide and must be avoided for 6 hours before HBT.
- 5 Broad spectrum antibiotics or bowel preparation (for colonoscopy, CT scanning, barium enema) may alter the bacterial content of the small and large intestine and must not be taken within 4 weeks of the HBT or a false negative result may be obtained.
- 6 Probiotics (eg lactobacillus, bifidus, acidophilus) in capsule, liquid or powder form are not allowed in the 4 weeks leading up to the HBT.
- 7 Avoid laxatives or stool softeners for 3 days before HBT.

If you have questions or concerns, further information may be obtained via e mail (info@weskentgastroenterology.com) or phone (01892 526726).

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